KENTROX

RMB Peripheral Units Installation Guide

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RMB
Peripheral Units
Installation Guide

This installation guide explains how to install RMB peripheral units (RMB-1 and RMB-2). RMB peripheral units are managed by Remote RMM-1400 or Remote RMX-3200 devices.

Instructions for configuration of this product are detailed in the following documents:

- *Remote RMM-1400 Command Reference Guide*
- *Remote RMM-1400 Configuration Guide*
- *Remote RMX-3200 Command Reference Guide*
- *Remote RMX-3200 Configuration Guide*

Guide to this document

Product Components

Cautions and Warnings

Customer Assistance

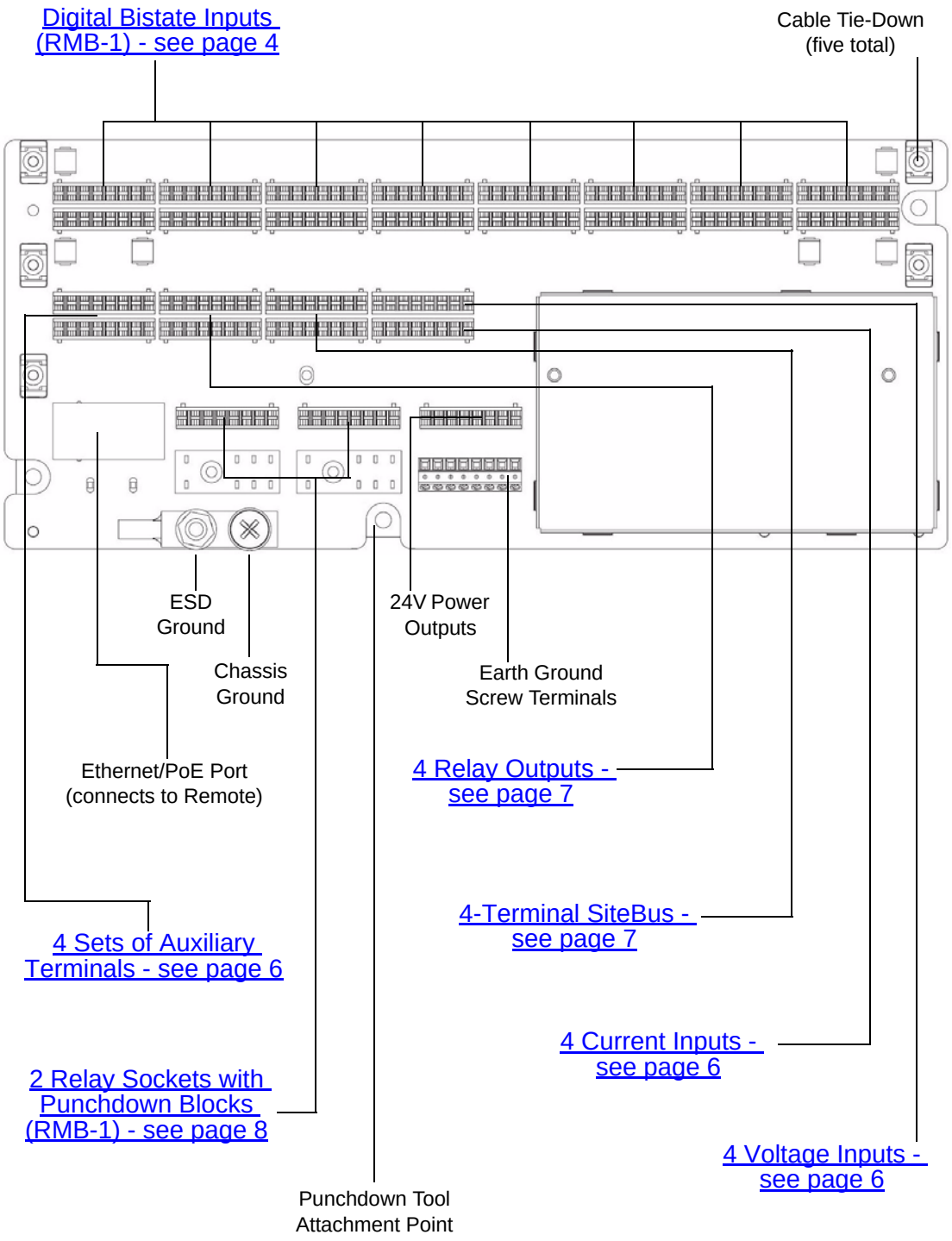
Required Items

Installation

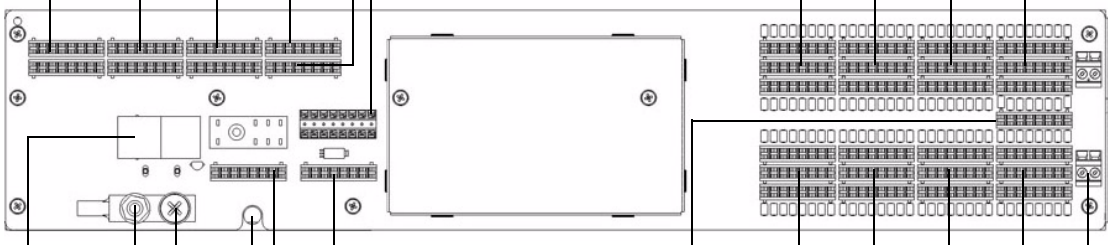
Technical Specifications

Product Components

Front Panel Components - RMB-1


Digital Bistate Inputs (RMB-1) - see page 4
Cable Tie-Down (five total)
ESD Ground
Chassis Ground
24V Power Outputs
Earth Ground Screw Terminals
Ethernet/PoE Port (connects to Remote)
4 Relay Outputs - see page 7
4-Terminal SiteBus - see page 7
4 Sets of Auxiliary Terminals - see page 6
4 Current Inputs - see page 6
2 Relay Sockets with Punchdown Blocks (RMB-1) - see page 8
4 Voltage Inputs - see page 6
Punchdown Tool Attachment Point

Front Panel Components - RMB-2



4 Sets of Auxiliary Terminals - see page 6

4 Relay Outputs - see page 7

4-Terminal SiteBus - see page 7

4 Voltage Inputs - see page 6

4 Current Inputs - see page 6

Digital Bistate Inputs (RMB-2) - see page 4

Earth Ground Screw Terminals

ESD Ground

Chassis Ground

Ethernet/PoE Port (connects to Remote)

Digital Bistate Inputs (RMB-2) - see page 4

Input Wetting Voltage Terminals (two total)

Punchdown Tool Attachment Point

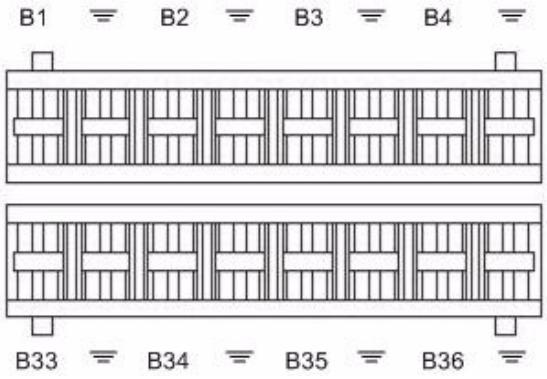
24V Power Outputs

Input Power Block (RMB-2) - see page 6

1 Relay Socket with Punchdown Block (RMB-2) - see page 8

Digital Bistate Inputs (RMB-1)

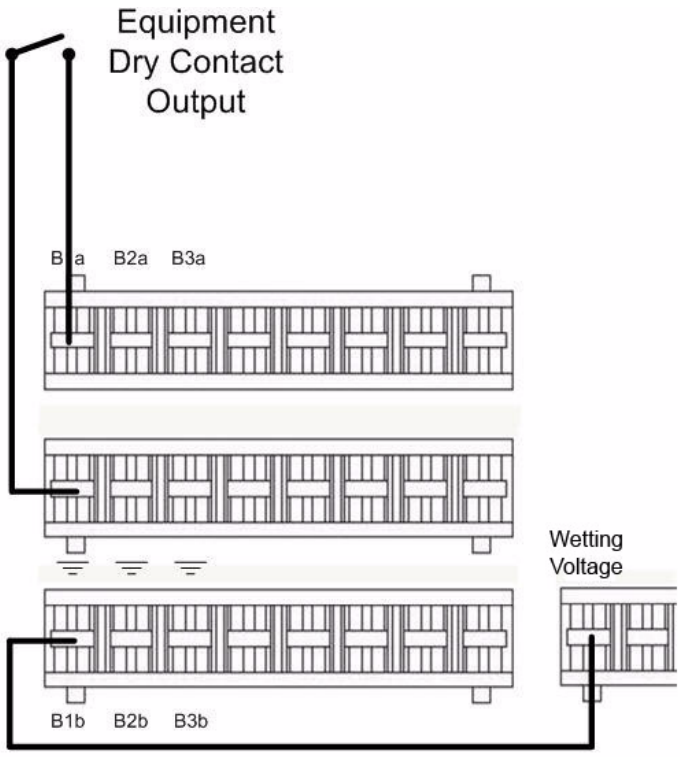
These rows of terminals provide 64 digital bistate inputs with ground terminals. The pinout for the first (leftmost) block is shown below.



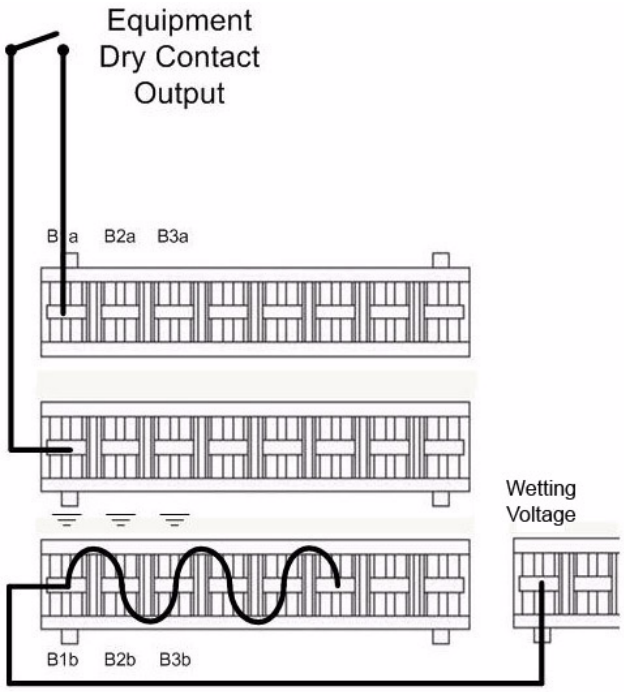
Digital Bistate Inputs (RMB-2)

These rows of terminals provide 64 digital bistate inputs. Unlike RMB-1, these terminals are arranged in triple rows in order to provide flexibility for both wet and dry contacts. Wetting voltage can be sourced from one of RMB-2's +24V power outputs, or you can connect a suitable wetting voltage via the input wetting voltage terminals and input power block, as described in section Input Power Block (RMB-2).

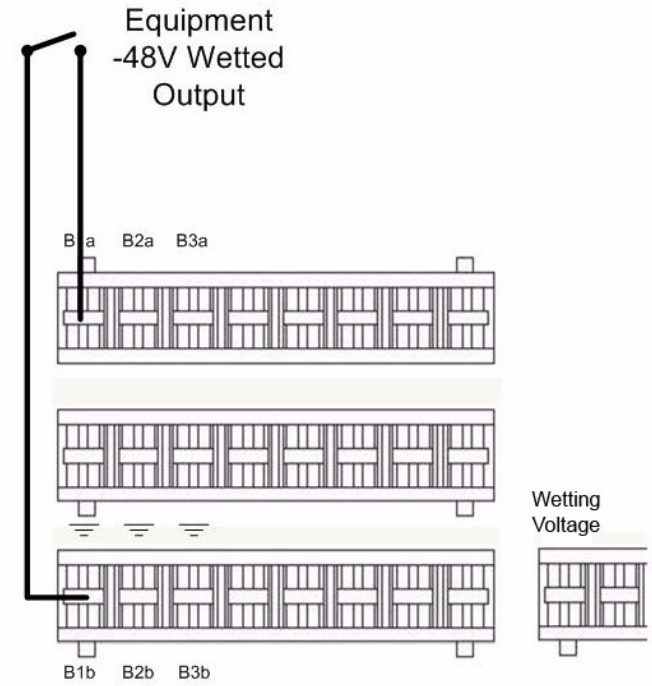
The example below shows wiring of a single dry contact alarm on RMB-2.



To speed installation, wetting voltage for dry contact inputs can be applied to multiple alarm points simultaneously as shown below.



RMB-2's digital bistate inputs can be connected to pre-wetted alarm contacts (such as those externally wetted with -48VDC) as shown below.



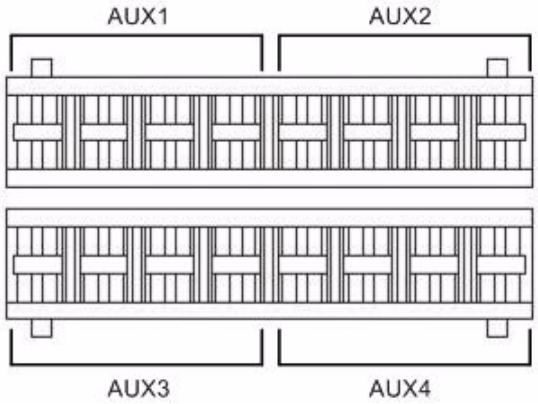
Input Power Block (RMB-2)

This block is tied to the dual input power screw terminals located at the right edge of RMB-2. After you connect input power to either set of input power screw terminals, that power will be available from the terminals in the input power block and can be wired to RMB-2's digital bistate inputs.

Note: The input power block provides wetting voltage only. Power for RMB-2 is provided from Remote through the PoE port.

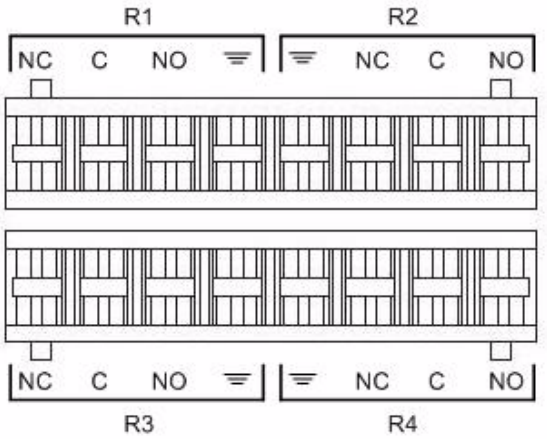
4 Sets of Auxiliary Terminals

This block (shown below) provides four sets of commonly-wired terminals for auxiliary use. For example, if you connect a wire to a terminal in the AUX1 block, you can connect wires into any or all of the other three AUX1 terminals to tie them together. These auxiliary terminals are not electrically connected to any other input/output terminals on RMB.



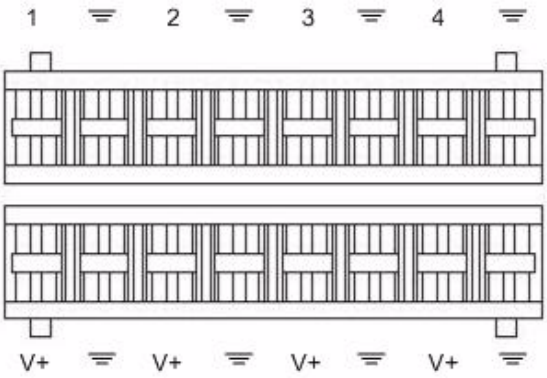
4 Relay Outputs

This block provides four sets of relay outputs (R1 through R4). Each set of outputs includes a normally-closed terminal (NC), a common terminal (C), a normally-open terminal (NO), and a ground terminal, as shown below.



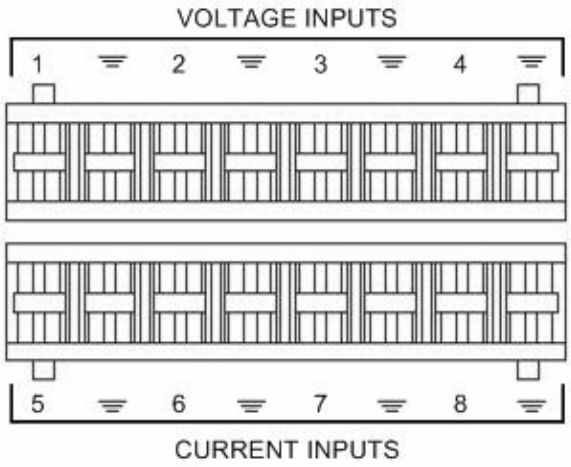
4-Terminal SiteBus

The top row of this block contains four SiteBus terminals with grounds. The bottom row contains four SiteBus power outputs with grounds, as shown below.



4 Voltage Inputs and 4 Current Inputs

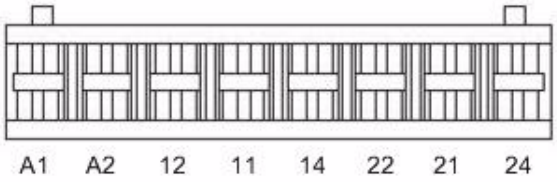
This block contains four voltage inputs (0-10V, positive only) and four current inputs (4-20 mA). The top row contains voltage inputs with ground terminals and the bottom row contains current inputs with ground terminals, as shown below.

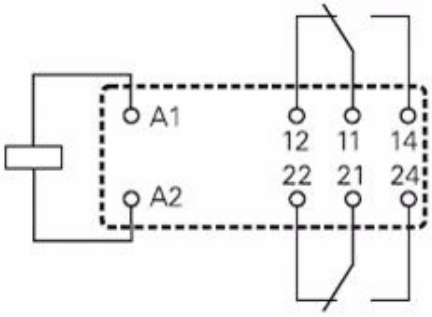


2 Relay Sockets with Punchdown Blocks (RMB-1)

1 Relay Socket with Punchdown Block (RMB-2)

Each of these relay sockets is hardwired to the punchdown block located immediately above it, using the pinout shown below. These sockets are compatible with industry-standard plug-in relays, such as the Phoenix Contacts PR1 series, Schrack RT series, and others. Consult Kentrox for options.

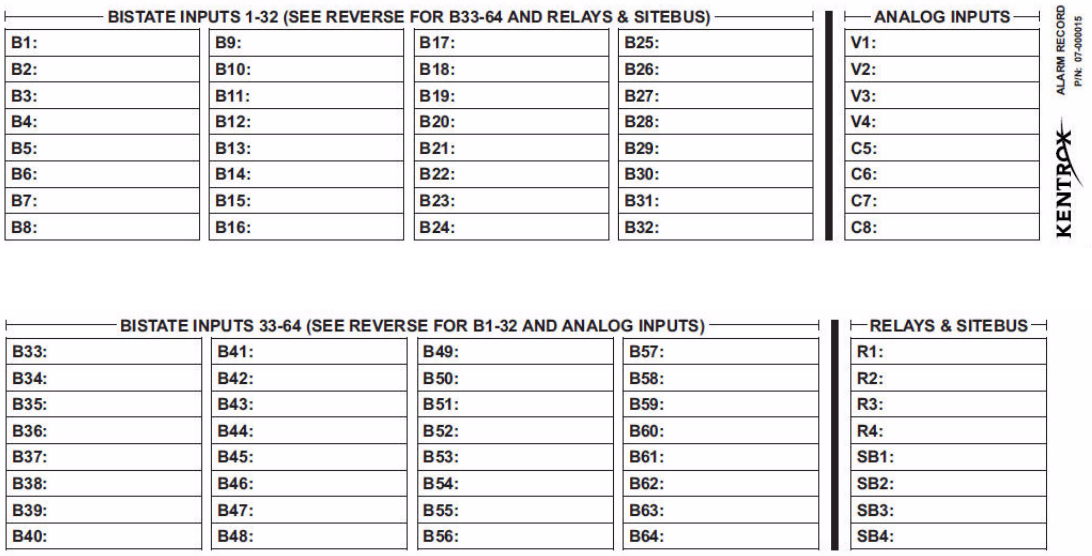




Alarm Record Card

Kentrox provides an Alarm Record reference card with RMB. The Alarm Record card is a handy place to keep notes about the connections you make to RMB's input and output points.

The front and back sides of the Alarm Record card are shown below.



BISTATE INPUTS 1-32 (SEE REVERSE FOR B33-64 AND RELAYS & SITEBUS)

B1:	B9:	B17:	B25:
B2:	B10:	B18:	B26:
B3:	B11:	B19:	B27:
B4:	B12:	B20:	B28:
B5:	B13:	B21:	B29:
B6:	B14:	B22:	B30:
B7:	B15:	B23:	B31:
B8:	B16:	B24:	B32:

ANALOG INPUTS

V1:
V2:
V3:
V4:
C5:
C6:
C7:
C8:

ALARM RECORD
P/N: 07-000015
KENTROX

BISTATE INPUTS 33-64 (SEE REVERSE FOR B1-32 AND ANALOG INPUTS)

B33:	B41:	B49:	B57:
B34:	B42:	B50:	B58:
B35:	B43:	B51:	B59:
B36:	B44:	B52:	B60:
B37:	B45:	B53:	B61:
B38:	B46:	B54:	B62:
B39:	B47:	B55:	B63:
B40:	B48:	B56:	B64:

RELAYS & SITEBUS

R1:
R2:
R3:
R4:
SB1:
SB2:
SB3:
SB4:

Cautions and Warnings

Grounding and Electrical Safety

CAUTION: Kentrox equipment and peripherals contain electrostatic sensitive components. Proper handling, shipping, and storage precautions must be exercised.

Installation

CAUTION: For Kentrox equipment to operate safely and correctly, there must be a safety ground strap between the equipment ground bolts and the office ground.

Environment

CAUTION: In the event that RMB has been subjected to adverse environmental conditions, a service inspection of RMB should be made to ensure safe operation.

Restricted Access Locations

CAUTION: The RMB is for use in restricted access locations only.

FCC

The Federal Communications Commission has set limits for emitted radio interference, and RMB is constructed with this electromagnetic interference (EMI) limitation in mind. RMB is classified under FCC regulations as a Class A device, that is, a device for use in commercial environments and not in residential areas. This device has been tested and shown to comply with the following FCC rule: Part 15 Subpart J. Operation of this equipment in a residential area may cause interference to radio and TV reception, requiring the user to take whatever steps are necessary to correct the interference.

Information is available from the FCC describing possible corrective actions. To maintain low EMI levels, we suggest that you use only metal connectors and shielded cable grounded to the frame.

Specifications are subject to change without notice.

Customer Assistance

All customers, partners, and resellers who have a valid Kentrox Support and Services Agreement have complete access to the technical support resources.

Kentrox offers technical support from 8 a.m. to 8 p.m. Eastern time, Monday - Friday.

Before you contact Kentrox for assistance, please have the following information available:

- The version of hardware and software you are currently running
- The error number and exact wording of any messages that appeared on your screen
- What happened and what you were doing when the problem occurred
- How you tried to solve the problem

Kentrox Online Knowledge Base

The Kentrox Online Knowledge Base provides online documents and tools to help troubleshoot and resolve technical issues with Kentrox products and technologies.

To access the Kentrox Online Knowledge Base, use this URL:

http://kb.kentrox.com

Email Support

Email support is available. You may send email at any time during the day; however, responses will be provided only during normal business hours, in accordance with your Service and Support Agreement.

To contact Technical Support, send email to:

support@kentrox.com

Telephone Support

Pre-sales support

Available, at no charge, to anyone who needs technical assistance in determining how Kentrox products or solutions can help solve your technical needs.

Phone number: 800-733-5511, option 2

Hours of Operation: 8 a.m. – 8p.m. Eastern Time

Post-sales support

Available to qualified Kentrox customers or partners who have not been able to resolve their technical issue by using our online services. To qualify for support, you must have a valid Support and Services Agreement.

Phone number: 800-733-5511, option 3

Normal Business Hours: 8 a.m. to 8 p.m. Eastern time

After-Hours Support: Available to qualified customers who are experiencing service-affecting outages that cannot wait until the next business day. To qualify for after-hours support, you must have a valid 24x7 Support and Services Agreement. Call the number above, option 3, and follow the prompts for after-hours service.

Product Documentation

You can also access and view the most current versions of Kentrox product documentation on our Web site at:

http://www.kentrox.com

Required Items

Tools

- #2 Phillips screwdriver
- Small flathead screwdriver (Phoenix 3 mm, recommended)
- 3/32 in. slotted screwdriver
- Crimping tool
- Wire cutter
- Wire stripper
- Grounding wrist strap
- Voltmeter, DC range
- PC or laptop with Kentrox Redirect software installed
- 10mm nut driver
- Wire punchdown tool (provided with RMB)

Materials

- Screws, sized to fit your rack
- Wire for input power connections (16 AWG solid or stranded insulated)
- Wire for ground connection (14 AWG, copper conductor)
- Ground lugs for rack or other earth ground
- Antioxidant
- Various required rack cables and cable assemblies

Installation

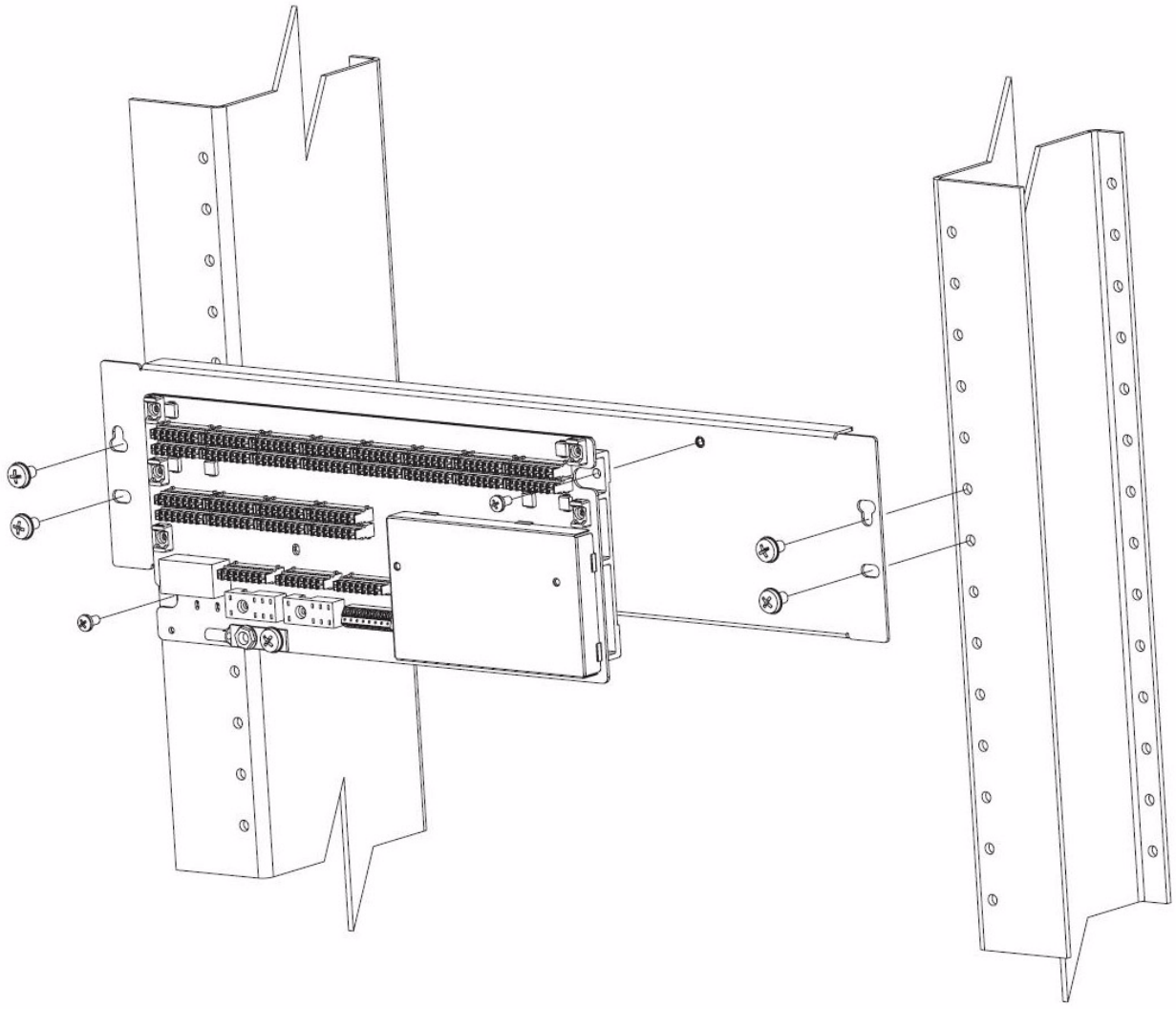
Step 1: Install RMX-3200 or RMM-1400

If you have not already done so, install Remote RMX-3200 (as described in the *Remote RMX-3200 Installation Guide*) or Remote RMM-1400 (as described in the *Remote RMM-1400 Installation Guide*).

Step 2: Mount RMB

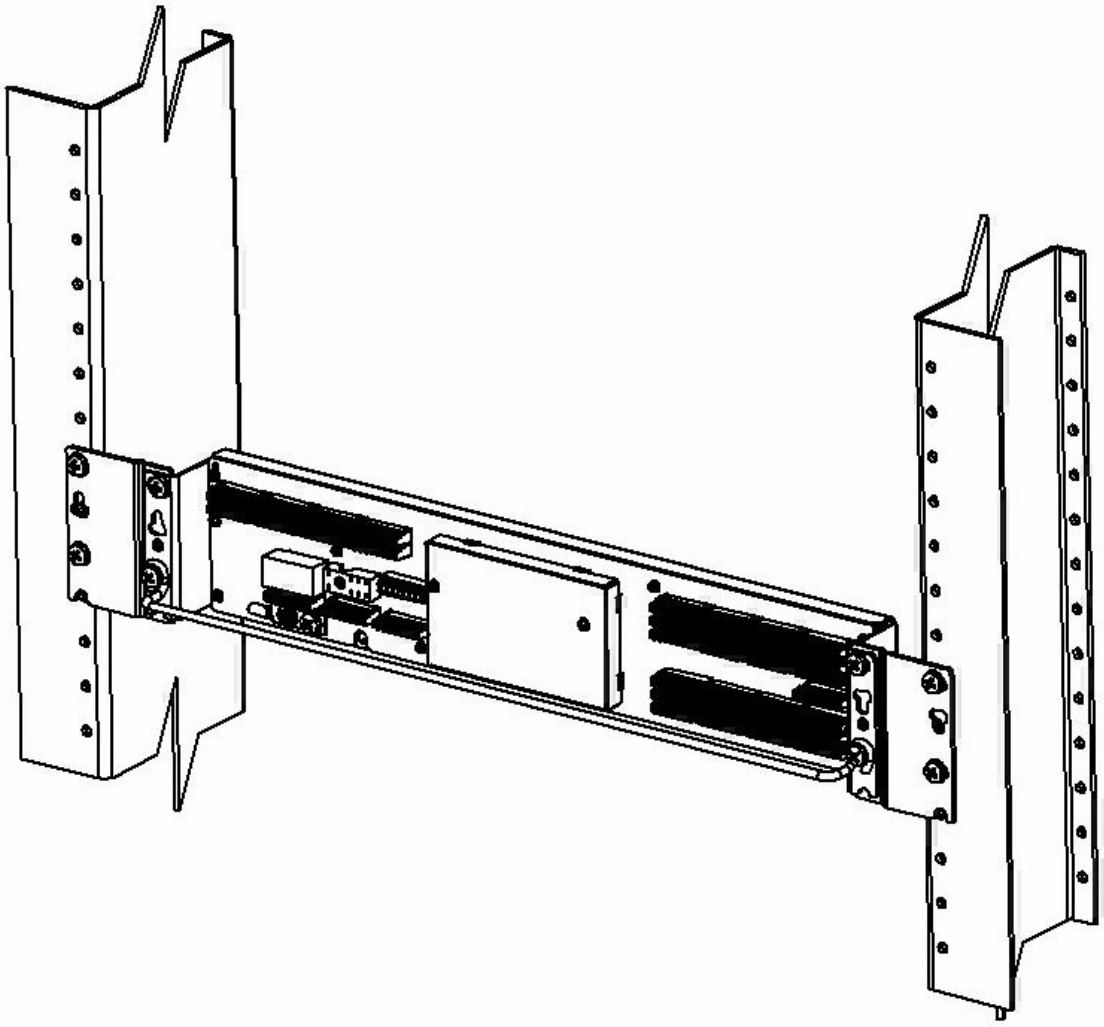
RMB-1

Install two screws into the mounting holes and tighten firmly into the wall. If you are using the optional rack mounting kit, mount RMB-1 in the rack using four additional screws as shown below.



RMB-2

Mount RMB-2 on a wall or in a 19-inch rack by installing four screws into the mounting holes and tightening firmly into the wall or rack. To mount RMB-2 in a 23-inch rack, use four additional screws to secure the provided mounting brackets to RMB-2 and the rack as shown below. (RMB-2 can be mounted in a 21-inch rack by using just one of the mounting brackets.)



Step 3: Connect RMB Inputs and Outputs

RMB input and output connections are made using the supplied punchdown tool. See Front Panel Components - RMB-1 and Front Panel Components - RMB-2 for an explanation of RMB inputs and outputs.

To connect a wire to a punchdown terminal on RMB:

1. Insert the wire in the slot in the top of the punchdown terminal and hold it in place.

2. Place the metal blade of the punchdown tool on top of the wire and press down firmly until the wire is seated in the bottom of the terminal. This action secures the wire in place and strips insulation from the wire. Pre-stripping the wire is not necessary.
3. Trim away any excess wire.
4. (optional) Gently tug the wire to ensure it is securely connected to the terminal.

Step 4: Connect Remote to RMB

Use a standard CAT5 Ethernet cable (such as Kentrox part number CAB182-10) to connect one of RMX-3200's or RMM-1400's PoE-enabled Ethernet ports to the Ethernet port on RMB.

CAUTION: Kentrox recommends disconnecting the Ethernet PoE cable to RMB before wiring inputs and outputs in order to avoid electrical shorts.

Technical Specifications

Table 1 Technical Specifications

Specification	Description
Weight	RMB-1: 1.85 lb (0.8 kg) RMB-2: approx. 4.00 lb (1.8 kg)
Size	RMB-1: Height: 4.8 in. (12.2 cm) Width: 11 in. (27.9 cm) Depth: 1.25 in. (3.2 cm) RMB-2: Height: 3.5 in. (8.9 cm) Width: 17.5 in. (44.5 cm) Depth: 1.75 in. (4.5 cm)
Mounting	RMB-1: Wall-mountable, or mounts in a standard 19-in. or 23-in. rack with optional kit RMB-2: Wall-mountable, or mounts in a standard 19-in., 21-in., or 23-in. rack
Operating Environment (Ambient)	Temperature: -30° to 60°C (-22° to 140° F) Relative humidity: 0% to 95% (non-condensing)
Power	802.3af Power over Ethernet (PoE), 12.95 watts maximum

Table 1 Technical Specifications (Continued)

Specification	Description
Wetting Voltage Fuse Rating	1 A at 60 VDC
Input/Output Ports	64 digital inputs: ● RMB-1 supports connection to dry contacts only ● RMB-2 supports connection to wet or dry contacts ● Current draw from wetting voltage per closed contact: 3 mA (RMB-2 only) 4 analog voltage inputs: ● Range: 0 to 10 VDC (positive voltage only) ● Input impedance: greater than or equal to 1 mega Ohm ● Accuracy: +/-2% of full-scale 4 analog current inputs: ● Range: 4 to 20 mA DC ● Input impedance: 100 Ohm ● Accuracy: +/-2% of full-scale 4 relay outputs: ● Contact rating: 30 VDC at 2 A resistive ● Contact type: Form C 4-terminal SiteBus Relay sockets with corresponding punchdown blocks (two relay sockets on RMB-1; one on RMB-2) 24VDC Aux Power Output: ● RMB-1 provides 100mA maximum output current (sensor power only) ● RMB-2 provides 400mA maximum output current (sensor power or input wetting)
SiteBus Temperature Sensor	Range: -55° to 125°C (-67° to 257° F) Accuracy: +/- 0.5°C from -10° to 85°C